

No.

9600355



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Singenta Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'S 62-62'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this tenth day of June, in the year two thousand two.

Attest:



P. M. Jabel

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Arthur C. Freeman

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

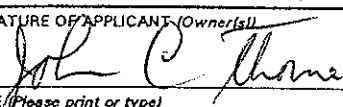
1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Northrup King Co. Syngenta Seeds, Inc. (bt: 2/28/2002)		X9562, B020740	S 62-62
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)		6. TELEPHONE (include area code)	FOR OFFICIAL USE ONLY PVPO NUMBER 9600355 DATE Aug 23, 1996 FILING AND EXAMINATION FEE \$ 2450.00 DATE Aug 16, 1996 CERTIFICATION FEE \$ 320.00 DATE 3/5/02
P. O. Box 959 510 North 12th (bt: 2/28/02) Minneapolis, MN 55440 Washington, Iowa 52353 (bt: 2/28/02)		612-593-7333	
7. GENUS AND SPECIES NAME		8. FAMILY NAME (Botanical)	
Glycine max		Leguminosae	
9. CROP KIND NAME (Common name)			
Soybean			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)			
Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	
Delaware		1976	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS		14. TELEPHONE (include area code)	
Northrup King Co., Inc. Syngenta Seeds (bt: 2/28/2002) P. O. Box 949; 510 North 12th Avenue Washington, Iowa 52353-0949 Attention: John C. Thorne		319-653-6645 (bt: 2/28/2002)	
15. FAX (include area code)		319-653-4609	
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act?)			
<input type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input checked="" type="checkbox"/> NO (If "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?	
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		<input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?			
<input checked="" type="checkbox"/> YES (If "yes," give names of countries and dates) <input checked="" type="checkbox"/> NO			
U.S.: Jan, April, 1996 (bt: 2/28/2002 per applicant's permission).			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.			
The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.			
Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s))		SIGNATURE OF APPLICANT (Owner(s))	
			
NAME (Please print or type)		NAME (Please print or type)	
John C. Thorne			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Director of Self Pollinated Crops	8-12-96		

EXHIBIT A

Origin and Breeding History of S 62-62

In 1987 the Coker breeding group at Bay, AR made the cross 'V78-184' x 'H841635' from which the variety S 62-62 is derived. V78-184 was later released as the variety 'Hutcheson', H841635 was a breeding line derived from the cross 'Coker 237' x 'Bedford'.

The F1 was advanced to F2 in the field at Bay during the summer of 1988, there were five F1 plants which were harvested in bulk. The F2 and F3 generations were advanced during two consecutive plantings in Hawaii, during the winter of 1988/89, and using a modified single seed descent. The F4 population was grown in the field at Bay during the summer of 1989, and single plants were taken at harvest. These were screened with race 3 of cyst nematode (Heterodera glycines), during the winter of 1989/90, and resistant plants were grown as F5 progeny rows in the field at Bay during the summer of 1990. One row, #20,740 was selected, harvested in bulk and designated as B020740. From 1991-92, B020740 was tested in yield trials at locations throughout the mid-south and southeastern United States. During this period the line was characterized as possessing white flowers, tawny pubescence, tan pod walls and seed which carries a dull seed coat and a hilum with a black pigmentation. It was further established that B020740 was susceptible to Phytophthora rot, but tolerant under field conditions, and resistant to stem canker caused by Diaporthe phaseolorum var. meridionalis. B020740 was further evaluated in advanced trials from 1993-95, across a wide range of environments. During 1995 it was tested under the experimental designation X9562, and based on its yield superiority and disease resistance, it was released in 1996 as S 62-62.

During the winter of 1992-93, 400 seeds of S 62-62 were planted in two rows in Hawaii. Following a thorough roguing for flower and pubescence color, 200 single plants were harvested, threshed individually and their progeny returned to Bay for planting in single rows during the summer 1993. This increase was rogued carefully at flowering and maturity to remove any rows which showed segregation or off-type plants. The remaining rows were then bulk harvested to produce Pre-breeder seed. This seed was planted near Bay, AR in 1994 to produce Breeder seed, and was rogued carefully at flowering and maturity and found to be uniform.

Foundation seed of S 62-62 was produced and approved by the Arkansas State Plant Board in 1995. Varietal purity will be maintained through routine roguing or by the further use of progeny rows as required.

S 62-62 is a uniform, stable variety except that it may contain offtypes with a purple flower, gray pubescence, or seed with a brown hilum, all at a frequency of less than 1%. During the four years of testing and three years of seed increase, we have observed no other off-types except for minor environmentally induced variation in the intensity of hilum pigmentation.

(Note: variants and off-types are used as having same meaning in this case (per applicant's permission per telephone conversation on 2/28/2002 btt).

EXHIBIT B**Novelty Statement for the Variety**

S 62-62 is most similar to the variety S 62-66. It can be differentiated from S 62-66 on the basis of flower color and resistance to stem canker (*Diaporthe phaseolorum* var. *Meridionalis*). S 62-62 has white flowers and is resistant to stem canker, whereas S 62-66 has purple flowers and is moderately susceptible to stem canker.

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION
 PLANT VARIETY PROTECTION OFFICE
 BELTSVILLE, MARYLAND 20705

EXHIBIT C
 (Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Northrup King Co., Inc. Syngenta Seeds, (bt:2/28/2002)	TEMPORARY DESIGNATION X9562, B020740	VARIETY NAME S 62-62
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) P.O. Box 949 510 North 12th (bt:2/28/2002) Washington, IA 52353-0949 Attn: John Thorne		FOR OFFICIAL USE ONLY PVPO NUMBER 9600355

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,).

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
 3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
 4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) _____

6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a)2 = Type B (SP1^b)

9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) _____

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 31 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

13. FLOWER COLOR:

☐ 1

1 = White

2 = Purple

3 = White with purple throat

14. POD COLOR:

☐ 1

1 = Tan

2 = Brown

3 = Black

15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 11 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

17. PLANT HABIT:

☐ 1

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

18. MATURITY GROUP:

☐ 09

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

☐ 2Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)☐ 0Bacterial Blight (*Pseudomonas glycinea*)☐ 2Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

☐ 1Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)☐ 0

Race 1

☐ 0

Race 2

☐ 0

Race 3

☐ 0

Race 4

☐ 0

Race 5

☐ 1

Other (Specify)

Common Isolates☐ 0Target Spot (*Corynespora cassiicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microspheera diffusa*)☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☐ 2Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ☒ 1 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
☒ 1 Purple Seed Stain (*Cercospora kikuchii*)
☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
 Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
☒ 1 Race 1 ☒ 1 Race 2 ☒ 1 Race 3 ☒ 1 Race 4 ☐ 0 Race 5 ☐ 0 Race 6 ☒ 1 Race 7
☐ 0 Race 8 ☐ 0 Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
☐ 0 Pod Mottle (Bean Pod Mottle Virus)
☒ 2 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
☐ 0 Race 1 ☐ 0 Race 2 ☒ 2 Race 3 ☒ 1 Race 4 ☒ 2 Other (Specify) Race 14
☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
☒ 1 Southern Root Knot Nematode (*Meloidogyne incognita*)
☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
☒ 1 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
☐ 0 OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☒ 2 Iron Chlorosis on Calcareous Soil Moderately resistant
☐ 0 Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
☐ 0 Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Hutcheson	Seed Coat Luster	S62-66
Leaf Shape	S62-66	Seed Size	COKER 686
Leaf Color	COKER 686	Seed Shape	RA604
Leaf Size	S66-90	Seedling Pigmentation	Tracy

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
Submitted	163	2.3	26	5.6	11.1	39.0	19.6	14.0	3
S62-66 Name of Similar Variety	163	5.5	28	6.6	12.4	38.8	19.1	15.0	3

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

REPRODUCE LOCALLY. Include form number and edition date on all reproductions.

FORM APPROVED - OMB No. 0581-0056

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E

STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) Syngenta Seeds, Inc. (Formerly Northup King Co.)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME S62-62
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 510 N. 12th Ave P.O. Box 949 Washington, IA 52353	5. TELEPHONE (Include area code) 319-653-2181	6. FAX (Include area code) 319-653-4609
7. PVPO NUMBER 009600355		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0056. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

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